

## Human GM-CSF, cct-premium (HSA)

Human Granulocyte Macrophage Colony Stimulating Factor, recombinant, carrier: HSA

Synonyms: CSF2, GMCSF

*PLEASE NOTE: ALWAYS CENTRIFUGE VIAL BEFORE OPENING*

Size	Order #	Lot #	Expiry Date
10 µg	1450.951.010		
50 µg	1450.951.050		
200 µg	1450.951.200		

Please enquire for bulk quantities and other vial sizes

### Description

Recombinant human Granulocyte Macrophage Colony Stimulating Factor (GM-CSF), a 14,5 kDa protein consisting of 127 amino acid residues (Ala18-Glu144), is a potent species specific stimulator of bone marrow cells and several other cell types. GM-CSF was initially characterized as a growth factor that can support the in vitro colony formation of granulocyte-macrophage progenitors. It is produced by a number of different cell types (including activated T cells, B cells, macrophages, mast cells, endothelial cells and fibroblasts) in response to cytokine or immune and inflammatory stimuli. Besides granulocyte-macrophage progenitors, GM-CSF is also a growth factor for erythroid, megakaryocyte and eosinophil progenitors. On mature hematopoietic cells, GM-CSF is a survival factor for and activates the effector functions of granulocytes, monocytes/macrophages and eosinophils. GM-CSF has also been reported to have a functional role on non-hematopoietic cells. It can induce human endothelial cells to migrate and proliferate. Additionally, GM-CSF can also stimulate the proliferation of a number of tumor cell lines, including osteogenic sarcoma, carcinoma and adenocarcinoma cell lines. GM-CSF is species specific and human GM-CSF has no biological effects on mouse cells. GM-CSF exerts its biological effects through binding to specific cell surface receptors. The high affinity receptors required for human GM-CSF signal transduction have been shown to be heterodimers consisting of a GM-CSF-specific  $\alpha$  chain and a common  $\beta$  chain that is shared by the high-affinity receptors for IL-3 and IL-5.

- **Source** *E. Coli*
- **Purity**  $\geq 98\%$  (SDS-PAGE, silver stained)
- **Endotoxin level**  $\leq 0.01$  ng/µg of protein ( $\leq 0.1$  EU/µg)
- **Stabilizer** HSA
- **Buffer** PBS, pH 7.2\*
- **Physical state** Sterile filtered, lyophilized

### Biological Activity

The ED<sub>50</sub> of  $\leq 0.1$  ng/ml was determined by the dose-dependent stimulation of the proliferation of human TF-1 cells. This corresponds to a specific activity of  $\geq 1.0 \times 10^7$  units/mg.

### Reconstitution

We recommend a quick spin followed by reconstitution in sterile filtered water to a concentration of 0.1 mg/ml. Do not vortex. This solution can then be diluted into other aqueous buffers and stored at 4°C for up to 1 week or at -20°C for future use.

### Stability

The lyophilized GM-CSF, although stable at room temperature for 3 weeks, is best stored desiccated at -20°C. Reconstituted GM-CSF should be stored in working aliquots at -20°C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA).

### Amino Acid Sequence

APARSPSPST QPWEHVNAIQ EARRLLNLSR DTAAEMNETV EVISEMFDLQ EPTCLQTRLE LYKQGLRGSL  
TKLKGPLTMM ASHYKQHCPP TPETSCATQI ITFESFKENL KDFLLVIPFD CWEPVQE

\*The Buffer may vary depending on the Lot #. Please contact our technical support if you have specific requirements.

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**Usage:** For research use only. Not for use in diagnostic or therapeutic procedures. Not for human use.

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